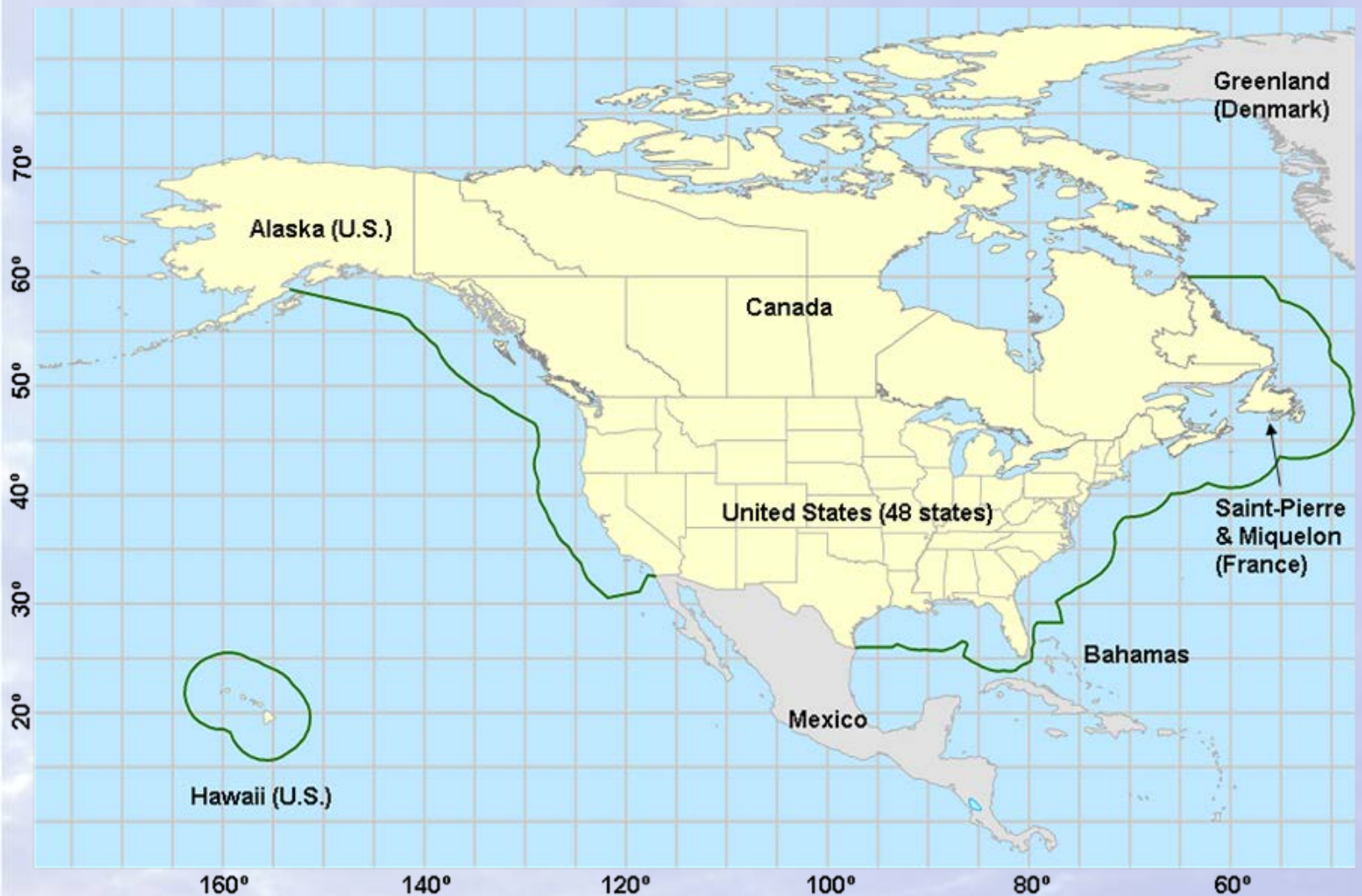




# The North American Emissions Control Area

Briefing for Regional Administrator  
MARPOL ANNEX VI  
Marine ECA Compliance Overview  
July 12, 2018  
Air Enforcement Section

# North American ECA Boundaries





# Ocean Going Vessels

- **2-3x's** NO<sub>x</sub> + SO<sub>2</sub> emissions than South Coast refineries
- NO<sub>x</sub> emissions - half of all cars/SUVs (SC + USA)
- Pre-2015 emissions uncontrolled
  - Highway truck ULSD =15 ppm S
  - World-wide OGV fuel=35,000 ppm S
- 2020 SC SO<sub>2</sub> inventory > 50% from OGV



# What vessels are we talking about?

- BIG vessels
  - Container ships
  - Tankers
  - ROROs
  - Bulk Carriers
  - Cruise Ships





# What it looks like on the inside



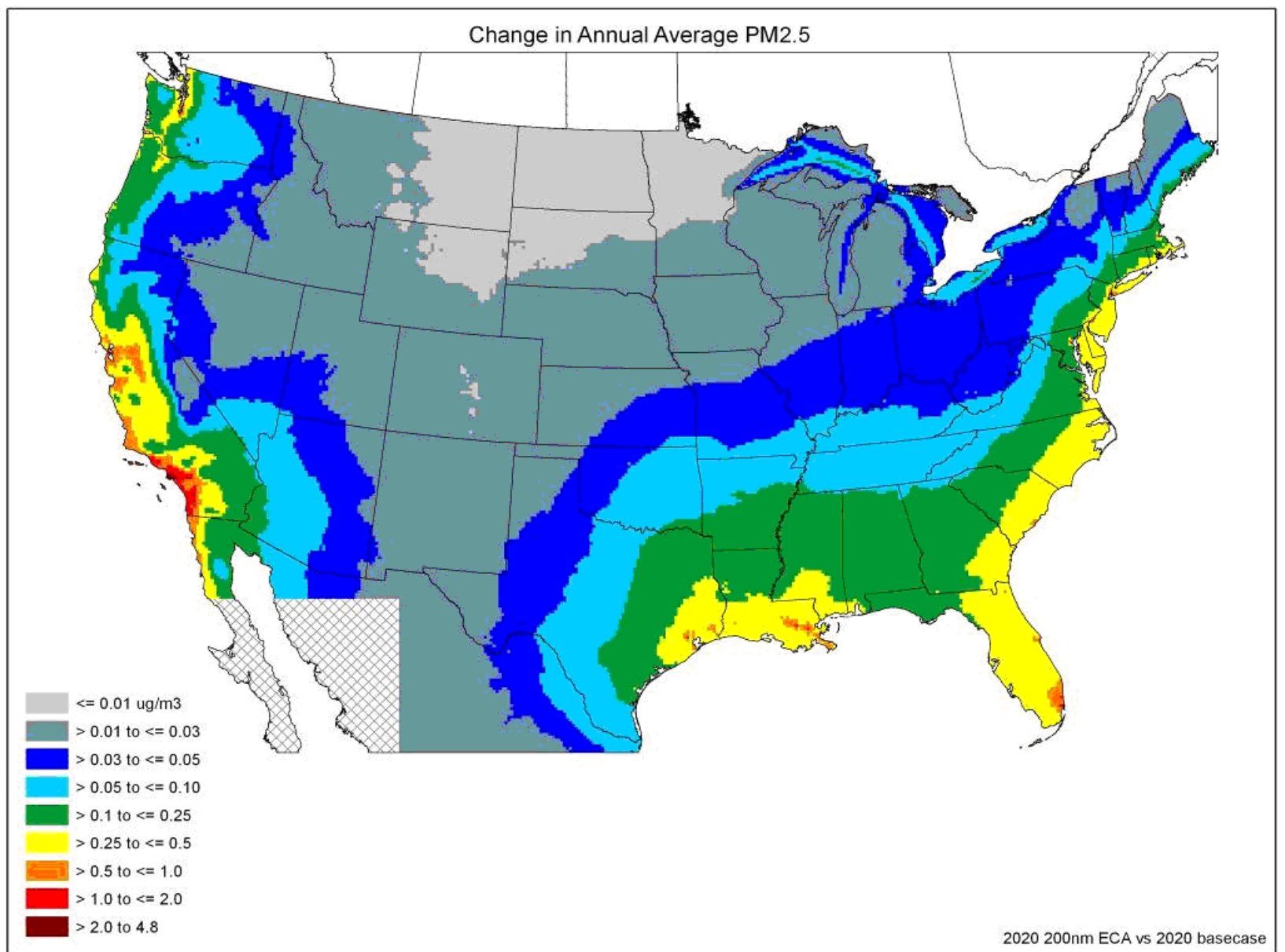


# North American ECA – Benefits

- Effective Aug. 2011
- Annual reductions (post-2020):
  - 320,000 tons of NO<sub>x</sub>
  - 90,000 tons of PM<sub>2.5</sub>
  - 920,000 tons of SO<sub>x</sub>
  - 23%, 74% and 86% reduction of predicted levels absent the ECA
- For 5 million people every year, 14,000 premature deaths prevented and respiratory symptoms lessened



# ECA Benefits—PM-2.5





# ECA Enforcement

- Act to Prevent Pollution from Ships (APPS) applies the ECA requirements
  - EPA Regulations in 40 CFR Part 1043
- CAA not directly relevant
  - *Except* that enforcement against fuel suppliers and U.S. flagged vessels became possible in 2015
- Cooperative enforcement - USCG & EPA



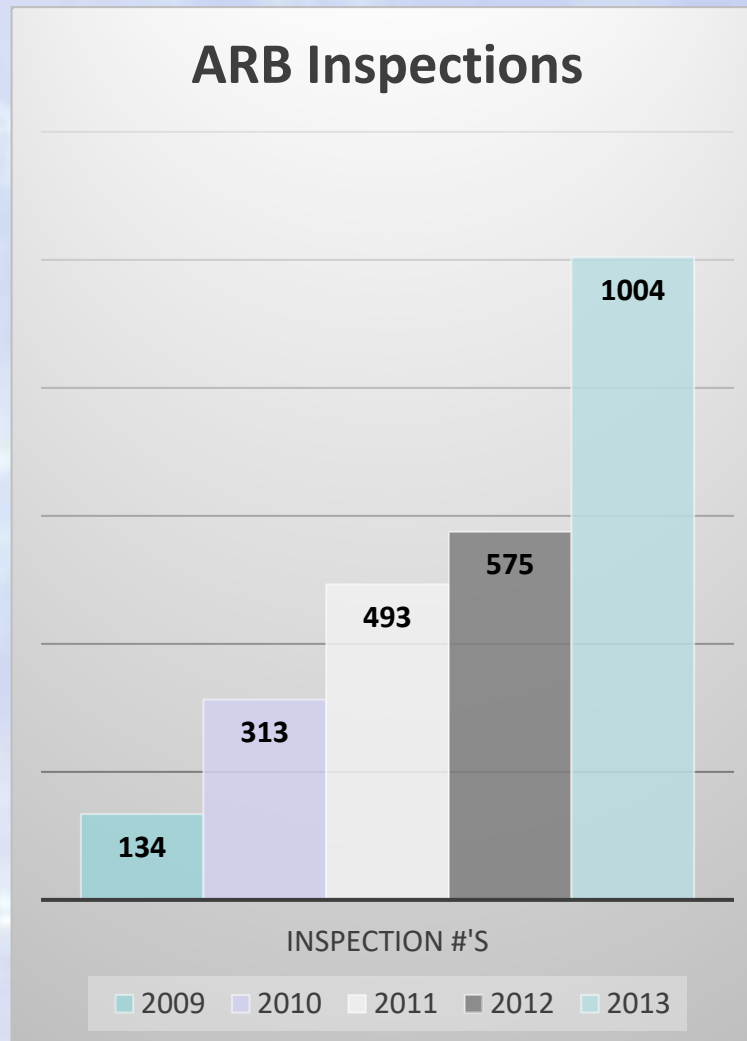


# USCG Enforcement

- Enforcing ECA nationally
- Inspects ~ 9,500 vessels annually
- 83 deficiencies (<1% non-compliance) documented
  - ~4 years (July 2014 through Dec. 2017)
- Complying industry
  - Vessels overcame issues of fuel non-availability and abilities to safely use compliant fuels

# CARB Enforcement

## ARB Inspections



- Over 5,600 inspections with sampling since 2009
- Types of Violations (~200)
  - Late Changeover
  - Using non-compliant fuel at berth. Non-compliance fee not paid
  - Fuel did not meet specs
- > 95 % Compliance.
- Over \$2M in penalties collected.



# Questions?

